



Application of Genius Booth Search Bank XYZ Mobile Based

Yaya Sudarya Triana¹; Misbahul Fajri²; Selpi Hasanah³

^{1,2,3}Information Systems & Universitas Mercu Buana, Indonesia

yaya.sudarya@mercubuana.ac.id

Abstract— *To be able to become a customer and have a bank account spend quite a long time and are not efficient in managing their time. Fortunately there is now something called Genius. Genius is a digital banking initiative that allows customers to have bank accounts and manage finances from smartphones. The customer does not even need to come to the XYZ branch to open an account. They simply download the genius app from the Google Play Store or Apple App Store, then register the account by listing biodata, uploading facial photos, and photo ID and NPWP. In its own use the genius is still lacking because it needs to activate the product through a booth of genius that only exist in jabodetabek. The existence of this application is expected to facilitate the customers in finding the booth because the booth only exist in certain locations.*

Keywords— *Booth Genius, Digital Banking, Genius, Search Mobile Based, Waterfall*

I. INTRODUCTION

The digital revolution makes Indonesia one of the most smartphone users in the world. Indonesia ranks sixth after the United States, the People's Republic of China, India, Brazil and Japan. In 2018, smartphone users in Indonesia are predicted to reach 100 million people or 40% of the total population of 250 million.

According to the Virginia content analysis organization, Media Research Center (MRC), the more developed a country is, the greater the percentage of its citizens who use smartphones. Hence, in the Asian region, Singapore became the country with the largest percentage, namely Singapore 88%, followed by Korea 83%, Hong Kong 79%, Taiwan 78%, Japan 54%, and India 33%.

This condition goes hand in hand with increasing public expectations of service products that use smartphones as the median. The proliferation of social media, the proliferation of application-based transportation services, and the emergence of financial technology (Fintech) products are part of efforts to meet the expectations of the community. And, the fastest, easiest, smartest, and safest product is the winner of the competition.

The National Pension Savings Bank (BTPN) presents Genius, an application designed and developed to help people manage life finance more easily, smartly and safely through Android and iOS-based smartphones.

II. METHOD

Genius is a digital banking initiative that allows customers to have bank accounts and manage finances from a smartphone. Customers do not even need to come to the BTPN branch office to open an account. Simply download the genius application from the Google Play Store or the Apple App Store, then register an account by including the curriculum vitae, uploading a face photo, and a photo of the ID card and TIN.

However, in its own use the status of the account is still semi-active (it cannot be used to transfer money to the ATMs of other XYZ and ATM banks) in order to become fully active and must visit the genius booth.

The word booth itself comes from English which apparently has the meaning of a corner, telephone box, booth, room. However, in this exhibition the booth itself has meaning or meaning as a place or facility for producers or participants in an exhibition to showcase their products or works to the wider community or potential customers.

The place that we usually find in exhibitions and used by participants has other functions. GPS (Global Positioning System) is a satellite navigation system and positioning using satellites. GPS can provide information about position, speed and time quickly, accurately, cheaply, anywhere on the earth at any time without depending on the weather. Basically, GPS consists of three main segments, namely the space segment consisting of GPS satellites, the control system segment, which consists of observer stations and satellite controllers, and user segments which consists of GPS users including equipment and receiver signals and GPS data.

Location-based services (LBS) are services that can be accessed via mobile devices equipped with the ability to utilize the location of a mobile device that is. According to (Nazarudin, 2012) Two main elements in LBS are:

1. Location Manager (Map API) Provides tools for sources or sources for LBS, Application Programming Interface (API) provides facilities for displaying or manipulating maps.
2. Location Providers (Fire Location) Provides location search technology that is used by the device. Location APIs are related to GPS

Data and real-time location data. Location-based services can be described as a service that is at a meeting of three technologies, namely: Geographic Information System, Internet Service, and Mobile Devices. Locations can be expressed in the form of spatial data or text descriptions. Spatial data can be stated using latitude, longitude and altitude. Latitude is expressed as a value of 0 - 90 degrees north or south of the equator. Longitude is expressed with a value of 0 - 180 degrees east or west of the prime meridian. Prime meridian is a virtual line that passes through a city called Greenwich in England. Altitude states the surface height of the sea surface.

Location Based Services consist of five main components, namely:

- a. Mobile Devices: A tool used by the user to request information required.
- b. Communication Network: Communication network which sends user data and requested information from the mobile terminal to the Service Provider then sends the requested information back to the user. Communication networks can be cellular networks (GSM, CDMA), Wireless Local Area Networks (WLAN), or Wireless Wide Area Networks (WWAN).
- c. Positioning Component: To process something in controlling the service then the user's position must be known to map
- d. Service and Application Provider: Provider the service offers a variety of services to users and is responsible for processing the information requested by users.
- e. Data and Content Provider: Service provider does not always store all required data that can be accessed by users. For this reason, data can be requested from the content provider.

Haversine Formula

The Haversine equation is a solution so that the closest locations appear around the user by ignoring the geographical form of hills and valleys.

$$\text{Distance} = \text{Acos}(\text{Sin}(\text{Lat1}) \times \text{Sin}(\text{Lat2}) + \text{Cos}(\text{Lat1}) \times \text{Cos}(\text{Lat2}) \times \text{Cos}(\text{Long2}-\text{Long1}) \times R$$

where:

Exercise1 : Value of Latitude user location

Exercise2 : Value of Latitude Destination location

Long1 : Value of Longitude User Location

Long2 : Value of Longitude Destination Location

Earth Radius (radius mean = 6,371 kilo meters)

III.RESULTS

3.1 Screen Design.

Admin can enter the system after successfully logging in, if it fails it will not be able to enter the system. The appearance of the login created is as shown below:



Figure 1 *User Interface Login*

The following is the Main System Screen Design of the Genius Booth Search Application:

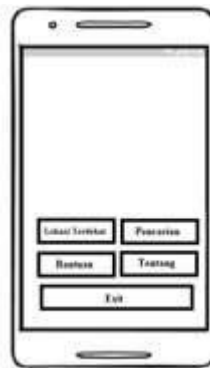


Figure 2 *User Interface Main Menu*

3.2 Implementation

In making this mobile-based booth search application using some of the software consists of:

- a. GPS (Global Positioning System)
- b. API (Application Programming Interface)
- c. JQuery Mobile
- d. Cascading Style Sheet (CSS)
- e. PhoneGap
- f. HTML 5
- g. LBS (Location Based Services)
- h. PHP
- i. XAMPP
- k. MySQL
- m. Eclipse

3.3 Database Implementation

In making a database, this application uses MySQL which can be managed with phpMyAdmin as shown below:

1. Genius Table Booth

Genius Booth Table contains fields such as `id_booth_genius`, `nama_booth_genius`, `telepon_booth_genius`, `telepon_booth_genius`, `latitude`, `longitude`, and `image`.



Figure 3. Booth Genius Table

3.4. Employee Tables

The Employee table contains the `user_id`, `username`, `password` fields.



Figure 4. Employee Table

Program Implementation The following is the implementation of the program in accordance with the screen design that has been made before, including:

1. Login Page



Figure 5. Login

2. Info Booth Genius Menu



Figure 6. Menu Info page Genius Booth

3. Genius Menu Page



Figure 7. Menu Genius

4. Nearest Genius Booth Page



Figure 8 Nearest Genius Booth Page

5. Nearest Genius Booth Page



Figure 9 Nearest Genius Booth Page

6. Help



Figure 9 Help

7. About



Figure 10 About

3.5 Unit Testing

Testing of programs made using Black box testing that focuses on the process of input and output programs. a. Testing of the Login Form Table 4.1. Black box Testing on the Login form

TABLE I
TESTING

No	Testing Scenario	Test Case	Expected Results	Test Results	Conclusion
1	The username is filled in and the password is not filled in or is empty, then click the Login button	Username: admin Password: empty	The system will deny access from the user and display "Username / Password incorrect"	according to expectations	Valid
2	Username is not filled in and password is filled in, then click the login button	Username: empty Password: admin123	The system will deny access from the user and display "Username / Password incorrect"	according to expectations	Valid
3	Type one of the conditions in one of the usernames or passwords then click the login button	Username: admin Password: 123456	The system will deny access from the user and display "Username / Password incorrect"	according to expectations	Valid
4	Type the username and password with the correct data then click the login button	Username: admin Password: admin123	The system will accept admin access then display the main menu page	according to expectations	Valid

3.6 Analysis of Test Results

After testing several system functions in the genius-based mobile booth search application, it can be concluded that testing has shown results that are in accordance with the application design of this program. The results obtained from the test above are the functions of this program running well and correctly, all of which have been proven from the results of the test scenario using Black Box Testing.

IV. CONCLUSIONS

Build a search mobile application Genius booth that can display the location information of the genius booth closest to the user's position, displaying the route and information on the road to the location of the genius booth. Use of LBS (Location Based Service) as a tool to facilitate the genius booth search application with the location based on service, it will be known the longitude and latitude of the location of the user and the genius booths that exist.

REFERENCES

- [1] David, Matthew.2012.HTML5 Mobile Websites:Turbocharging HTML5 with JQuery Mobile, Sencha Touch, and Other Frameworks. Waltham: Focal Press.
- [2] Nidhra, Srinivas, and Dondeti, Jagruthi, 2012, Blackbox and Whitebox Testing Techniques
- [3] A Literature Review, International Journal of Embedded Systems and Applications (IJESA)
- [4] Pressman, R.S. 2015. Software Engineering, Yogyakarta.
- [5] Safaat Nazaruddin.2012.Pemrograman Aplikasi Mobile Smartphone & Tabet PC Berbasis Android. Bandung: Informatika